MARINE REVIEW.

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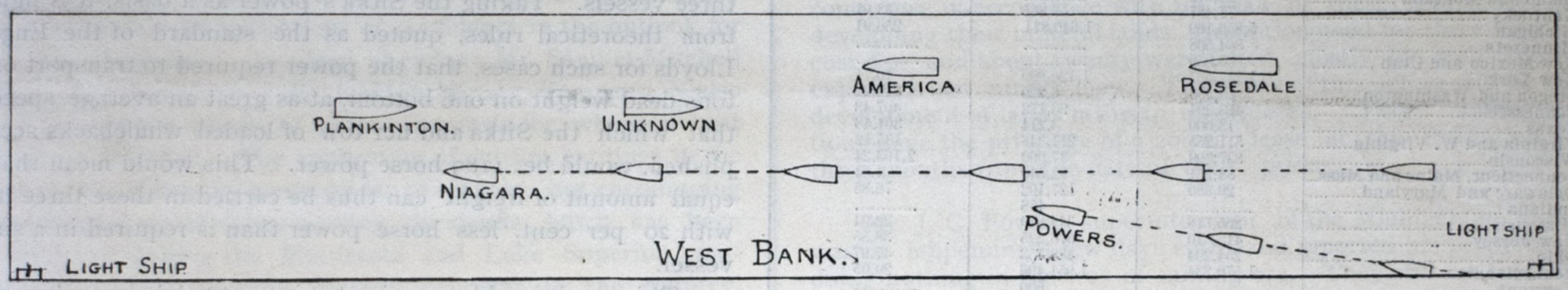
Protect the Lime-Kilns' Crossing.

In the accompanying drawing a scene at the Lime-Kilns' cut, Detroit river at 10 o'clock on the morning of Sept. 20 is reproduced. It shows thirteen vessels in the cut at one time, and a consort in one of the tows that is shown crowding into the channel, tore away the lower light-ship on the west side of the cut. When it is known that this channel, constructed at an immense cost by the government, is but 2,500 feet long and 440 feet wide, the danger of crowding it in this way will be readily understood. The sinking of the barge Mary Birckhead at the lower end of the crossing last Friday night and the succession of accidents of this kind in different parts of the rivers of late should be sufficient evidence to owners that the time has arrived for taking some action regarding navigation in narrow and shallow places. Great credit is due the Canadian custom department and the collector at Amherstburg for prompt action in preparing for the removal of the wreck of the Birckhead within twenty-four hours after attention was called by the Cleveland Vessel Owners' Association to the dangerous position in which the boat rested after sinking. If rules for navigation in all parts of the rivers can not be agreed upon, something should at least be done toward regulating the passage of vessels over this cut.



SCENE AT THE LIME-KILNS, SEPT. 20, AT 10 A. M.

Ore Shipments—Freight Situation.

We have again succeeded in securing from official sources lake shipments of ore from the different ports with permission to publish only total figures. The aggregate on Oct. 1 was 5,066,860 gross tons, as against 6,479,975 gross tons on the corresponding date in 1890, or a decrease of 1,413,115 tons. On Sept. 1, a month ago, the difference was 1,505,000. The September movement, 1,112,350 tons, was much larger than it was expected it would be, but in considering the difference in the shipments this year and those of a year ago, consideration must be given to the fact that about 800,000 tons was shipped by rail last season while rail shipments this season will be very light, on account of the refusal of the railway companies handling the ore between the mines and lake ports to allow their cars to be used for all rail shipments while a rush to get ore to lake forwarding ports was in progress. On this account it can be said that a very large portion of the ore that would under ordinary conditions have gone by rail has helped to swell lake shipments. It is now about certain that the total output of the mines will be in the neighborhood of 6,500,000 tons, as against 9,000,000 tons in round numbers last season.

The freight market has been more discouraging during the past week than at any time since the opening of navigation, but there is again some hope of a renewal of grain shipments and the market is inclined to improve. A few charters were made as low as 65 cents from Escanaba, 80 cents from Marquette and 95 cents from Ashland, but rates are again quoted nominally at 75 cents from Escanaba and $1 from Ashland. Wet weather in the wheat region has been the main drawback to shipments, but it is expected that Duluth will still move 5,000,000 or 6,000,000 bushels of grain, and there is also some inquiry from Port Arthur regarding tonnage for grain that is expected to move within the coming week. The strike of soft coal miners together with crowded docks at upper lake ports has reduced coal shipments to a very small number of cargoes each week, and boats are willingly accepting 40 cents to Lake Superior and 45 cents to Milwaukee on such coal as can be secured.

Lumber shipments from the head of Lake Superior have been of marked assistance to the general freight market all season and there is still an active movement at $2.75 to Chicago and $2.50 to Buffalo. When it is considered that at Ashland alone the cut so far is about 133,000,000 feet, with indications of a total cut for the season of 150,000,000 feet, it will readily be seen that this trade, which has increased so largely within the past three years, furnishes employment to a large amount of tonnage. Bay City rates are unchanged and the Lake Huron trade is not very active.

The Weather Bureau and Lake Commerce.

With the opening of navigation next spring the vessel masters of the lakes will be asked to co-operate with the weather bureau, with a view to establishing a service that may result in some benefit to commerce. Dr. H. J. Penrod, who has been employed in the service a couple of years, has been ordered to the lakes by Professor Harrington, chief of the bureau, and has taken up headquarters in Cleveland. The announcement that a series of charts showing location of wrecks, displaced buoys, currents, etc. will be issued immediately, on the broad plan followed by the hydrographic branch of the navy, is, however, premature and would tend to act against an earnest effort on the part of the weather bureau to assist lake commerce in sending Dr. Penrod to Cleveland. He will begin by simply enlisting the support of vessel masters in securing meteorological observations on water with the instrument now used in the different stations around the lakes and after the system followed in these stations. Later on attention will probably be given to currents and other phenomena, but Dr. Penrod will move slowly adapting his investigations to conditions presented here. Precise data regarding storms will be secured, and from work of this kind it is hoped that a service of benefit to the lake marine may be built up. Dr. Penrod began in New York city the original work of securing reports of this kind from vessel masters, from which the important hydrographic service of the navy department has since been built up. He hopes to establish eventually a service that may be of equal importance on the lakes.

Iron Ore Production in the United States.

A census bulletin just issued from the division of mines and mining of the census bureau places the production of iron ore in this country during 1889 at 14,518,041 gross tons, and of this amount Michigan, which leads the twenty-six states and two territories in the list, produced 5,856,169 gross tons and the Lake Superior district 7,519,614 gross tons. The output of the whole country in 1889 represented a value on cars or carts at the mines of $33,351,978, an average of $2.30 per ton. The value given for ores obtained from mines which may properly be considered in the Lake Superior region averaged $2.66 per ton, and the value of ores from the states of Alabama, Tennessee and Virginia and West Virginia averaged $1.20 per ton. The total product of the country reported at the last census was 7,120,362 gross tons, valued at $23,155,657. A comparison of the figures of the present and the last census will best show the remarkable increase in the production and activity of the iron ore industry since 1880. The total increase was 7,396,679 long tons, or 103.89 per cent. over the production of 1880, representing an augmented value of $16,195,021, or 44.03 per cent. At the same time the value of ore at the mines was reduced from $3.25 in 1880 to $2.30 in 1889. The following table shows output of the various states in 1889 contrasted with 1880:

States and Territories.	1889 (Long tons.)	1880 (Long tons.)	Percentage of increase.
Alabama	1,570.319	171,139	817.57
Colorado	109,136	.....	.....
Georgia and N. Carolina	208,145	84,584	205.19
Idaho and Montana	24,072	.....	.....
Kentucky	77,487	57,865	33.91
Michigan	5,856,169	1,640,811	256.91
Minnesota	864,508	.....	.....
New Mexico and Utah	36,050	.....	.....
New York	1,247,537	1,126,899	10.71
Oregon and Washington	26,283	6,225	322.22
Tennessee	473,294	93,172	407.43
Texas	13,000	3,214	304.48
Virginia and W. Virginia	511,255	217,348	135.12
Wisconsin	837,399	37,000	2,163.24
Connecticut, Maine and Mass.	88,251	92,549	4.64
Delaware and Maryland	29,380	127,102	76.88
Indiana	.....	458	.....
Missouri	265,718	344,819	22.94
New Jersey	415,510	676,225	38.55
Ohio	254,294	488,753	47.97
Pennsylvania	1,570,234	1,951,496	20.05
Vermont	.....	500	.....

Great Britain in 1889 produced only a few thousand tons more of ore than the United States. The production of the several leading countries was as follows:

	Long tons.		Long tons.
Great Britain	14,546,105	Sweeden	985,904
United States	14,518,041	Algeria	475,000
Germany and Luxemburg	11,001,042	Cuba	256,278
Spain (shipments from)	5,067,144	Belgium	220,000
France	2,500,000	Italy	178,489
Austria-Hungary	2,300,000	Canada	75,162
Russia	1,400,000		

The expenditure for wages per ton of iron ore in the different states during 1890 is reported as follows:

Alabama	$0.69	New Mexico and Utah	1.22
Colorado	2.48	New York	1.00
Connecticut, Maine and Mass.	1.82	Ohio	1.40
Delaware and Maryland	1.65	Oregon and Washington	1.20
Georgia and North Carolina	0.71	Pennsylvania	0.75
Idaho and Montana	2.21	Tennessee	0.76
Kentucky	0.87	Texas	0.91
Michigan	1.19	Virginia and West Virginia	1.09
Minnesota	1.10	Wisconsin	1.09
Missouri	0.97	The United States	1,06
New Jersey	1.71		

The total value of the iron ore mines of the United Stotes is shown in the following table:

ITEMS.	1889.	1890.
Total	$109,766,199	$61,782,287
Land	78,474,881	48,274,149
Buildings and Fixtures	7,673,520	
Tools, Implements, Live-stock, Machinery, etc	8,045,545	8,657,375
Cash and Stock on hand	15,572,253	4,850,763

The state of Michigan has advanced from second place in 1880 with a total reported investment of $17,496,785, to first position in 1889, with an investment of $41,958,571, an increase of $24,461,796, or nearly 140 per cent., or 38.23 per cent. of the total capital used in iron ore mining for the United States. Pennsylvania occupies second place, with a valuation of $16,249,313, or 14.80 per cent. of the total, a decrease of $1,372,388; or 7.79 per cent. from the 1880 valuation of $17,621,701, when it occupied first place.

The bulletin calls special attention to the heavy yield of metal from the ores of Lake Superior.

American Steel Barge Company's Great Drawback.

A copy of the paper "Screw Steamship and Tow Barge Efficiency on the Northwestern Lakes of America" by Joseph R. Oldham, read at a recent meeting of the American Society of Civil Engineers, has been received from the secretary of the society, Mr. F. Collingwood, 127 East Twenty Third street, New York. The author has given some study for about three years past to lake vessels, being engaged at different times as a representative of owners or underwriters in surveys or similar work. His opinions on the construction of lake vessels and most matters pertaining to the lake marine have been very freely expressed, but he deals particularly with the whaleback barges in this paper and has endeavored to impress the members of the New York society with a very high regard for their efficiency in general. A great deal that has been said about the claim of superior seagoing qualities in the whalebacks, staunch construction and tow bills only one-fourth of freight as against one-third in ordinary lake barges is repeated, but there is little that is new in the paper outside of a general recommendation of the vessel as a cargo carrier. The Wilson line steamer Sitka is said in the paper to be capable of towing two of the barges at an average speed of 8 knots an hour, with 6,600 tons as the combined cargoes of three vessels. Taking the Sitka's power as a basis, it is figured from theoretical rules, quoted as the standard of the English Lloyds for such cases, that the power required to transport 6,600 tons dead weight on one bottom, at as great an average speed as that which the Sitka and her tow of loaded whalebacks accomplished, would be 1189 horse power. This would mean that an equal amount of freight can thus be carried in these three hulls with 20 per cent. less horse power than is required in a single vessel.

This result is odd reasoning to give out to lake vessel owners, even in connection with the whaleback tow barges, for which so much is claimed, as these same vessel owners have learned through an experience of years and conditions surrounding the business that the days of usefulness for the tow barge have passed. They have been investing millions in big steamers of high power, and there is no denying the fact that, notwithstanding the power of the American Steel Barge Company and its ability to build and equip large numbers of the whalebacks on its own account, the greatest drawback to advancement of the barge enterprise is the refusal of lake vessel owners to adopt them by purchase, although another season of building vessels after the ordinary type has begun with a large number of contracts already under way.

Successful Naval Display.

Chicago's naval display at the unveiling of the Grant monument was a pronounced success. In the course of a long report the Inter Ocean said the next morning: "To the untiring efforts of Hon. J. S. Dunham, marshall of the nautical division, and Deputy Collector Homer J. Carr, of the committee, a great deal of success of the marine review is attributable. Both worked hard for the successful carrying out of the project, and in their work were aided to no small extent by the marine committee, which was made up of the following gentleme n: Captains J. S. Dunham, T. T. Morford, A. W, Goodrich, Homer J, Carr, Wm. Harmon, W. E. Holmes, Hugh MacMillan, J. C. Evans, J. L. Higgie, B. A. Miller, John Prindeville, Wiley M. Egan, J. G. Keith."

MICHIGAN READERS OF THE REVIEW SHOULD TELL THEIR FRIENDS THAT THEY CAN HAVE THE MARINE REVIEW AND DETROIT TRIBUNE (WEEKLY) ONE YEAR FOR $2.

Record of Speed and Big Cargoes.

[*Masters or owners are invited to report improvement on this list.*]

Iron ore: Lake Michigan—Maryland, Inter-Ocean Transportation Company, of Milwaukee, 3,322 gross, or 3,737 net tons, Escanaba to South Chicago, draft 16 feet 6 inches; E. C. Pope, Dry Dock Navigation Company of Detroit, 3,221 gross, or 3,608 net tons, Escanaba to Ashtabula, draft about 16 feet. Lake Superior—E. C. Pope, Dry Dock Navigation Company, of Detroit, 2,828 gross, or 3,167 net tons, Ashland to Lake Erie, draft 14 feet 6 inches.

Grain: E. C. Pope, Dry Dock Navigation Company of Detroit, 125,730 bushels of corn, draft 14 feet 8 inches; Western Reserve, Peter Minch, of Cleveland, 112,431 bushels of wheat, Chicago to Buffalo; W. H. Gilcher, J. C. Gilchrist, of Cleveland, 114,982 bushels of corn, Chicago to Buffalo.

Speed: Owego, Union Line, of Buffalo, Buffalo to Chicago, 889 miles, 54 hours and 16 minutes, 16.4 miles an hour; Saranac, Lehigh Valley Line, of Buffalo, Buffalo to Lime-Kilns, 240 miles, 15 hours and 10 minutes, 16 miles an hour.

Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company	$100 00	$.....	$ 82 50
Champion Iron Company	25 00	.....	80 00
Chandler Iron Company	25 00	37 00	40 00
Chicago and Minnesota Ore Company	100 00	.....	100 00
Jackson Iron Company	25 00	.....	110 00
Lake Superior Iron Company	25 00	57 50	.....
Minnesota Iron Company	100 00	80 00	83 00
Pittsburg Lake Angeline Iron Co	25 00	.....	.....
Republic Iron Company	25 00	25 00	27 00
Ashland	25 00	.....	53 50
Section Thirty-three	25 00	.....	10 50
Brotherton	25 00	2 00	2 50

Mining stocks are not active and there is little hope of a movement in them until indications of fall dividends are presented. Shares in the big companies are strongly held, however, and the plans of the Minnesota and Lake Superior directors for new steel vessels are indications of confidence in the outlook for next year's business. As noted elsewhere Mr. Samuel Mitchell of Negaunee, president of the Jackson Mining Company, is also at the head of a syndicate of mining interests for whom a boat has been contracted. The application of surplus earnings to the construction of floating property is, of course, not encouraging to the smaller stockholders seeking dividends, but it has been the means of making the Minnesota and Lake Superior companies the two greatest iron mining concerns in the country. There is again some talk of the Chandler company dividing a portion of its surplus within the next thirty days, but as the stockholders have been waiting a year for a dividend, with full knowledge that the company has the money on hand, this last report is not received with much interest. The Chandler directors may have some plan of special benefit to the stockholders in view while holding off from a division of any portion of its earnings, but if such is the case it is known only to a few and there is a general expression of surprise that a dividend is not announced. The mine has already produced this season more ore than during the entire season of 1890 and will increase its 1890 shipments by 50,000 tons, still leaving some ore in stock.

The mining interests of Northern Ontario in convention at Sault Ste. Marie last week talked of making Algoma a new Canadian province. A feeling bitterly hostile to the policy of the present Ontario government in mining matters was shown. Sudberry, Port Arthur and other places that have grown into prominence as mining centers of late were well represented at the convention. Among other matters discussed was the advisability of a provincial department of mines, with a responsible minister at its head, the abolition of royalties and ground rents, the exemption of improvements from taxation, the construction of main district roads and colonization railways and the adoption of a more liberal railway, mining, immigration and homestead policy.

The Chandler has for some time past been working on a drift from No. 1 to No. 3 shaft a distance of about 700 feet. The last ground was broken and the two shafts connected by a tunnel a few days ago. This makes an entire underground communication at the Chandler. Ore is being loaded from No. 2 stock pile at the rate of twenty cars a day. It was announced a short time ago that the mine had discontinued stock pile shipments, but such is not the case, as No. 2 has been working a small crew of men for about three weeks. All the ore that is hoisted is being shipped, and in connection with the small stock pile shipment the daily output is about 2,400 tons.—Ely Iron Home.

Shipments on Oct. 7 from Ashland of Gogebic range mines, several of which are also shipping from Escanaba, were as follows: Ashland 209,094 tons, Aurora 75,854, Tilden, No. 2, 5,221, Tilden 23,194, Montreal, south vein 53,119, Palms 30,687, Section 33, Bessemer 36,738, Carey 81,984, Trezona 15,759, Germania 22,382, Iron Belt 1,506, Mount Hope 82,344, Norrie 232,758, East Norrie 100,814, Comet 8,050, Federal 929, Eureka 12,752, Pabst 81,184, Ruby 913, Sunday Lake 49,561, total 1,134,829 tons. On the same date the Ludington mine had shipped 111,422 tons from Gladstone and the Hamilton mine 42,451 tons. The output of the Vermillion range, also computed to the 7th inst., is 436,783 tons for the Minnesota and 301,755 tons for the Chandler.

The Canadian Mining Review says that the Belmont Bessemer Ore Company of New York, with a force of about twenty men, has been working steadily for the last six months on its magnetic iron mine in Belmont township, where T. D. Ledyard owns a large tract of iron lands. So far they have been doing preliminary and development work only. A shaft has been sunk to the depth of about 50 feet, mostly through good ore, and several cross-cuts have been made, showing ore of excellent quality. The company has decided to construct a branch railway from its mine to the Canadian Pacific Railway, about 6 miles, and has commenced the necessary work. Mr. G. L. Woodworth, M. E., late of the Iron River mine in Michigan, is the manager.

The offices of the Cleveland Iron Mining Company at Ishpeming were crowded on Wednesday last with mining men seeking options on the properties of the Cleveland and Iron Cliffs companies in accordance with the plan of these companies for developing their mineral lands. An option good for three months cost $50, and about twenty were taken, mostly by well known explorers and mining men. The result of this action will be the development of lands hitherto unexplored. Those holding options have the privilege of a 20-year lease at the expiration of three months from the date of their options.

Mr. J. C. Fowle, superintendent of the Michigamme mine, was in Ishpeming a few days since and reported his property as doing nothing in the way of mining ore. They still continue to operate the electric concentrator for the reduction of the lean ores, and with excellent success. Mr. Fowle claims to have perfected the plant so that it stands at the head of all others, a fact that might interest our friends on the Vermillion range who are figuring upon treating the magnetic ores of that district, of which there is said to be an endless supply associated with rock, and unmarketable by reason of this mixture.—Iron Ore.

Work has begun on one of the shafts to be sunk in the new find of the Lake Superior company, near the Winthrop property, and another level will be added to the lake shaft of the company. It is thought that electric power will soon be given a trial in some of the workings of the company. The management expresses a willingness to give electric rock drills, pumping or hoisting machinery a trial.

At a meeting of the Minnesota Iron Company a few days ago, H. R. Bishop, president of the company, tendered his resignation, to take effect Nov. 1, and Vice-President Bacon was elected to succeed Mr. Bishop. Mr. Bacon has been actively connected with the big mining company for a number of years, and has at all times been closely identified with the stockholders now in control.

The Jackson iron company is exploring for ore on the south side of the huge jasper bluff that arises to the west and south of its old mine. The company is putting down test pits to the ledge and has has encountered the lean ore formation that is found on this run of ground, and upon which much work has been done at different points within the past few years.

Great claims are still being made for the Mesaba range mineral lands in which the Merritts are interested. It is said that the new Duluth, Mesaba & Northern Railway will be taking ore from this range by July next. On the Biwabik property where test pits have been sunk recently immense quantities of good ore is reported in sight.

Sound Views Regarding the Convention.

EDITOR MARINE REVIEW—The spirit of the Detroit board of trade in taking up the question of a water-way convention in promotion of a deep water channel to the ocean is certainly commendable. The magnitude of the measure that must be proposed at such a convention should draw from that association another commendable move, namely, the calling of the convention at a point that would insure the largest possible attendance of influential representatives of a wide territory. Let the convention be a semi-national one, and include all the states north of the Ohio river and of Indian Territory, and East of the Rocky Mountains. It should be composed of producers and manufacturers, transportation men and statesmen, and should be of such imposing proportions that if it saw fit to formulate a demand for the expenditure of a hundred million dollars, it would be listened to with willingness, and its suggestions acted upon by congress.

In view of the railroad connections of Chicago, would not a convention held in that city be more likely be a large and successful one, than if held elsewhere? The west would certainly be convenienced by such an arrangement.

W. F. STREET.

West Superior, Wis., Oct. 7.

Objects to the Comparison.

EDITOR MARINE REVIEW: I see in your paper of Sept. 17 a decision in admiralty that you think would interest the owners of the schooner Pelton. Now whether you did this as just a "happener" or whether it was done in behalf of others, probably never will be known, but you know such things have their influence. People do not stop to think of the similarity of the case. The New York court held something that could not be anticipated. If you think that a man lying at the Lorain piers and seeing a heavy squall make up cannot anticipate that there is going to be more than the usual strain on his lines, then I will admit that the cases are similar. In your mentioning us you might be construed as advising us to settle, but that is of no use as we did almost everything before we began a suit. We offered to leave it to their lawyers, and we offered to equalize the damage. We offered to take less than half the valuation of the vessel and even since we started the suit we offered again to leave it with their lawyers and ours with the understanding that they should call in a third party if they could not agree. Mr. Goulder has told me that under such circumstances a boat must make fast so as to withstand the hardest squall that might be expected in any season. I desire to call your attention to the fact that their is no similarity in the cases. In one case, a sudden gust of wind came that could not be anticipated, and in the other a squall made up in the afternoon, (and they had plenty of warning for it was an hour or more coming) that could be anticipated. If you will take the trouble to inquire, you will find that other cases handed down are exactly similar in all particulars, and to be fair with us you ought to look up these decisions or publish this card.

E. J. CUYLER,

LORAIN, O., Oct. 6. Managing Owner, Schooner Pelton.

[The foregoing communication has reference to an action in admiralty growing out of the sinking of the schooner Pelton in a jam of vessels, caused by a storm at Lorain two seasons ago. The REVIEW referred in a recent issue to a federal court decision in a case that appeared somewhat similar to that of the owners of the Pelton against the owners of other boats that were in the jam of vessels in which the Pelton was sunk. The decision was found among the regular reports of admiralty decisions given by the REVIEW and was printed with the comparison simply for what it was worth.—ED.]

CHICAGO LAKE INTERESTS.

WESTERN OFFICE, MARINE REVIEW,
No. 210 So. Water Street, CHICAGO, Ill., Oct. 15.

Sentiment among Chicago vesselmen generally is in favor of the waterways convention. As to its location the feeling is that this city would be the best place for the convention. It would be in line with the campaign of education which has been carried on so successfully this season. If deeper water-ways are to be had Chicago river must be deepened, and it would be well to let the city know what is coming by having the convention within its gates. A successful gathering would certainly have a good effect in showing the imporiance of the marine interests. Without going into politics, it can be said that the present city administration has given more attention to the needs of the river than any of its predecessors, republican or democratic. It is so, because marine men have shown good strength. The water-ways convention would be a splendid thing in the same direction. Chicago river is not a local affair, and anything that tends to its improvement is an end most devoutly sought by the entire lake interest. Chicago papers circulate throughout the northwest, and the proceedings of the convention would be read by more people if it were held here, than if held at any other point on the whole chain of lakes. Then Chicago is much the handiest place for the marine men of the lower lakes to meet the representatives of the northwest, for if the convention is to be a success, both classes must be here. It could not be charged that any particular project for improvement was being urged What Chicago wants is more water between the great lakes. New waterway projects excite little interest here. A meeting will soon be held when the question of inviting the convention will be discussed. Whether it be held here or elsewhere Chicago will be represented.

No one would suspect that the west had had the greatest wheat crop in its history by the way the grain goes to market. The "Hold-your-wheat" circulars, so generally pooh-hooed by the grain trade, have been heeded by the farmers. Whether they are wise or not is their business, but it is death to the vesselman. There is no movement of grain. With flaxseed, rye and barley to help out now and then the line boats are kept filled up, flour and other package freight giving them the bulk of their cargoes. Other boats are now and then sneaked in. What is the worst feature of it all, is that no sign of improvement is visible. The outlook is now as dreary as it was in June. Vesselmen should resort to the tricks of specnlators and get out "Sell-your-wheat" circulars for distribution in the rural districts. This might help a little.

A great change has come over the city law department about the control of Chicago river by the general government. In June Corporation Counsel Miller was rampant in defying the United States. The city would fight to the bitter end against government interference. In October Mr. Miller is as meek as a lamb. He tells the council committee that if he is ordered to resist the government's claim he will do it. He states clearly that he will not stake any professional reputation on the issue. Indirectly he infers that the city will be beaten. Next week the first month's fine of $5,000 against the city for allowing Canal street bridge to obstruct navigation should be collected. There is no doubt the fine will be collected. Five thousand a month is 6 per cent. interest on a million dollars. The city is not making any money out of Canal street bridge just now. If the case goes into the courts and drags along four or five years the fines will amount to more than bridge, viaduct, and everything else required to open Canal street. It is fortunate that the law is to be tested in so favorable a case. This Chicago alleged bridge is a striking illustration of the necessity for the law, and will stop any attempt to repeal it. If any change is made, the law will be made more stringent.

The REVIEW is making good headway among Chicago marine men as a live, thorough-going and business-like marine journal.

Many vessel agents believe lake rates will go to a cent a bushel in October.

Lake Superior Grain Movement.

Special Correspondence to the MARINE REVIEW.

DULUTH, Minn. Oct. 15.—The grain situation, so far as the vessel interests are concerned is still dull. Receipts last week fell off 516,000 bushels while shipments increased 13,000 bushels. The Sault accident will doubtless have the effect of putting up rates somewhat, as nearly 1,000,000 bushels ought to accumulate here this week. Sales for shipment to Europe have been very heavy in the last week or so, and this wheat will probably be shipped as soon as possible. There were 1,457,902 bushels in store Monday morning or 103,209 bushels less then last Monday.

The E. C. Pope took out another big load, an even 100,000 bushels.

W. E. Moran has been appointed Deputy Collector of Customs at Superior vice W. F. Street.

Raising of the Kasota.

Special Correspondence to the MARINE REVIEW.

DETROIT, Mich., Oct. 15.—The Kasota was moved to the American bank, Sunday. She is a hard looking wreck, nearly cut in two, and considerably out of line. The raising of the wreck was accomplished Saturday afternoon, and was a very interesting sight. A party of gentlemen went to the wreck in a naptha launch, and was engaged in watching the inch by inch raising of the badly wrecked upper works, as the diver kept filling the casks with compressed air. About five o'clock the hull very unexpectedly raised about six feet within a minute. Those who didn't take off their hats and cheer regreted it. Capt. Falcon. the successful wrecker, brightened up and said: "This takes a heap of trouble off the old man's mind." How much will she be worth in dock? One owner answered $50,000, a shipyard superintendent said $30,000. This is the thirty-seventh wreck raised by Falcon, with his compressed air process, although the Kasota is considerably the largest boat ever raised. For deep water wrecking it is the only successful plan. By means of it he has raised a schooner in 100 feet of water in the Straits. The plan consists of sinking large casks filled with water, and forcing the water out by means of compressed air when the casks are secured in the hold. At the time the Kasota was raised the casks in her hold that had not been filled with air represented 40 tons of unused power. The compressed air apparatus used was very simple. A deck hoist engine worked the compressor, and a common hose line was used as a connection between the compressor and casks. This boat is still in 23 feet of water and it will be necessary to do considerable work on her before she is ready to take to dry dock.

I have heard considerable comment on the three light-ships lying at the government yard here, and about the additions and finishing touches that are being put on. "If it is a fair question," said a prominent owner, "I would like to know if the government pays for all these additions to these light ships and if it does, whether or no the repair bills added to the contract price would not equal the next highest bid, the expectation being that the bidder would finish the boats. This does not cast any reflection on the builders. It is merely a question."

West Bay City papers misquote Wheeler and make a laughable reply to the suggestions that Wheeler's new boat will be built after the Pope. They explain the difference in the Pope's and Weed's carrying capacity by saying that the Pope had no electric light equipment.

Kingston Harbor Work.

Special Correspondence to the MARINE REVIEW.

KINGSTON Ont. Oct. 15,—For about seven years men have been at work removing shoals in the harbor, but more boats get aground now than ever before. This is partly because the boats coming here are longer and partly because shoals still exist. Yesterday the Waverly and Bruce, from Duluth, with 85,000 bushels of grain, went on the Carruthers shoal, and lucky for them a gale did not come up else they would have pounded badly, as it was they were badly injured in being hauled off. It is safe to say that $2,000 will not bear the expense of repairs. Their bottoms must be considerably torn. Here were two cargoes, valued at $100,000, lying at the mercy of the wind and waves, and no sooner were the two boats named released than along came the Algonquin and went on the shoal in front of Point Frederick. She went a little out of the course with the result named, but if the shoal was not there she would not have had to lie all day Sunday grinding on rocks. Now what is surprising to mariners is this: To remove the shoals the government is adopting means that are fully 100 years behind the age. Just fancy one and sometimes two divers,below water prying at rocks with crowbars. No wonder the desired headway has not been made in seven years labor. If the modern methods were adopted, and steam drills used, the same as was done at Oswego and other places every shoal could be moved in six months. The one-man-and-a-crowbar system is all very well for affording several situations, but for benefit it is simply absurd. The sooner the government looks into this matter the better. Large boats will not come here if they have to pay out half their freight every trip for damages.

Another fleet of barley vessels is here with cargoes from England, and it now looks as if the fall trade down the river will be all Canadian barley. Before the McKinley bill was passed Oswego rceeived 6,000,000 bushels of barley every year from this side.

The water in the harbor has lowered 21 inches since July 17. It is now lower than for three years.

The steamer City of Owen Sound, suuk in Georgian B y, has been raised and towed ashore, where her cargo of corn will be taken out of her.

West Bay City Ship Yards.

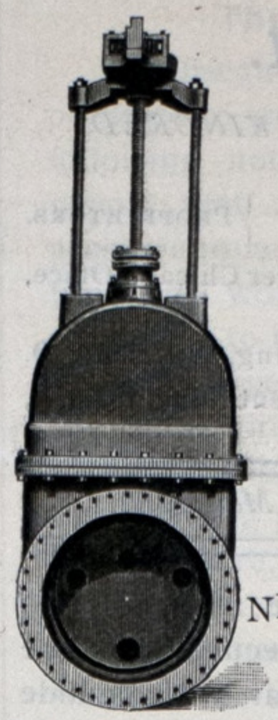
Special Correspondence to the MARINE REEVIW.

WEST BAY CITY Mich., Oct. 15.—"When are you going to begin work on another vessel?" the REVIEW correspondent asked of Capt. Davidson a few days ago and was met with the reply that "freights have dropped out of sight, and everything looks so dull that I'll be glad to keep what I have going, without building any more than the one I have started now. It is no use to talk boat building now and I don't think we will begin any new work in our yard unless it is under contract." Work is, however, already under way at the Davidson's yard on a second wooden freighter, a duplicate of the one commenced a few weeks ago. The dimensions are 325 feet over all, 42 feet beam and 26 feet moulded depth. The frames for the first of these vessels are all in position and the work of planking was commenced this week. At Wheeler & Co's. yard every preparation is being made for more work, and although Mr. Wheeler denies the report that he has an agreement with Penoyer Brothers for a duplicate of the Iosco, built for them last season, there is certainly something going to be built.

The Monohansett, which has been in the Bay City dry dock for repairs that could not be made at Davidsor's shipyard, has been returned to the yard and a force of men are now at work on the cabins and decks of the vessel, which will be almost a new one when it has received all the repairs contemplated.

The propeller Mary Pringle, recently bought at marshal's sale, has been in dry dock at the Wheeler yards for repairing. The boat is not thought to be in a very good condition, but with an extensive lot of repairing which will be done during the winter it will come out in as good condition as the majority of boats of her class, which are away behind the present times.

THREE DOLLARS FOR TWO—THE MARINE REVIEW AND DETROIT TRIBUNE (WEEKLY) ONE YEAR FOR $2.



The Largest Dry Dock on the Great Lakes.

OWNED AND OPERATED BY THE DETROIT DRY DOCK COMPANY.

The inside dimensions of this dock are:

378 feet long,
91 feet wide on top,
78 feet openiug at entrance,
54 feet opening on mitre sill,
55 feet wide on floor,
16½ ft. of water over keel blocks,
16½ ft. of water over sill,
4½ ft. from top of keel blocks to floor of dock,
20½ ft. from water line to floor of dock.

ONLY the best is good enough, is the criterion of quality for the Detroit Dry Dock Company, and the new dock which they open next week is certainly an example of the above caption. For the past few years the necessity of larger and better docking facilities on the great lakes has been very apparent, but the risk of construction and uncertainty of the business has kept many from the undertaking. The Detroit Dry Dock Company, however, about a year ago determined to build a dock larger and finer than anything yet attempted on fresh water. And after almost a year spent in its construction, it is believed they have now just such a dock, with every modern appliance to facilitate prompt and economical execution of all rebuilding and repair work. It is situated in Detroit, foot of Orleans street, where the offices, saw-mill, engine, boiler, and general repair yards of the Detroit Dry Dock Company have been located during the past forty years. Mr. A. J. Dupuis, the well-known contractor and builder, carried out the work under the supervision of Mr. J. C. Parker, superintendent of the Orleans street yard.

The keel and bilge blocks are five feet from center to center, averaging five feet high, thus leaving plenty of room under a ship for the movements of the workmen in making any necessary repairs to her bottom. There are two wells 12 feet deep, situated at each end of the dock, with cranes above them for hoisting out and replacing wheels, etc. The caisson gate which, when closed, shuts off the ingress or egress of water, is of steel, constructed at the company's steel ship building plant at Wyandotte, Mich. It is 12 feet beam, 79 feet 5 inches long, with five 30 inch valves for flooding the dock, which it is estimated can be done in twenty minutes. Time required to pump the dock out is one and one-half hours. The whole dock is surrounded with a puddling wall filled with blue clay 5 feet thick, and extending down below the old river bed, which completely shuts off all water from leaking through the sides. The soil at this point is fine blue clay, which has enabled the work to progress without interruption from landslides or leakage of water. Two thousand piles have been driven in the dock, making it as strong as it is possible to be. Loaded ships carrying a cargo of 3,000 tons can be safely docked, and those of the largest dimensions can be easily taken in. This dock is large enough to take in any boat now upon the great lakes, and has been designed especially for the wide railway car ferries and passenger boats with their overhanging guards and paddle wheels. There has also been added to the Detroit Dry Dock Company's plant a pair of steel shear legs for hoisting boilers, engines, spars, etc., from and into boats. They are located just above the dock, are 100 feet high, and have a lifting capacity of 100 tons.

The pumping plant, which is very complete, consists of two centrifugal pumps with 30 inches discharge each. These are driven by two 150 horse power independent compound Westinghouse engines. These pumps are in a well 22x11 feet inside and 35 feet deep, the water passing from the dock to the well through a brick tunnel 5½ feet diameter and 55 feet long. The steam for the engines is supplied by a battery of three boilers, 5½ feet in diameter and 15½ feet long, built by the Dry Dock EngineWorks. The fuel is oil, and the whole pumpiug plant is housed in a two story brick building, 34x81 feet. A dynamo-room is provided, where an electric light plant will be put in during the coming winter which will supply the entire ship-building plant with light. The second floor of the building will be utilzed by the workmen at noon and other hours, when work may be temporarily suspended, and will be fitted up for their comfort.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, ... } PROPRIETORS.
F. M. BARTON, ... }

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ALTHOUGH the proposed convention of lake interests this fall will be expected to exert great influence in securing in the connecting waterways of the lakes a channel that will exclude the possibility of a great inland commerce being brought to a standstill by an accident like that which occurred at Lake George flats below St. Mary's Falls canal on Saturday last, it is certain that the question of an outlet to the seaboard for this commerce will be of paramount importance in the great gathering as a growing interest in the subject is shown in all directions. There are, of course, leading men in the lake marine who do not believe that either the United States or Canada will ever construct a waterway of sufficient dimensions to admit of a free interchange of commerce between the Atlantic coast and the lakes without breaking bulk, even with the present type of lake vessels. Mr. M. A. Hanna, who is at the head of iron ore and transportation companies that make up a combination of interests as large as anything on the entire chain of lakes, is outspoken in declaring that Canada's canal policy, which has limited its waterways from the lakes to the seaboard to a draft of only 14 feet, is a step in the wrong direction that can not be righted within the life of the present generation, and he is equally emphatic in saying that the radical enlargement of the Erie canal, laying aside the question of enormous cost, would be rendered impracticable by interests along the canal that would demand the construction of bridges and other obstructions to free navigation. There is little doubt, however, that the question will be given wide attention through the proposed convention and that a canal project will have supporters from among the lake marine whose enthusiasm on the other side of the question will meet Mr. Hanna and those who share in his opinions with able arguments in favor of the project and some earnest work toward bringing it to the attention of Congress.

IT is now more than probable that the law compelling all passenger boats to carry life lines and guns, the operation of which on the lakes has been suspended for the present season, will be repealed as far as its application to inland waters is concerned when the next congress assembles. Gen. Dunont said a few days ago in reference to the recent meeting of the board of supervising inspectors of steam vessels, convened for the purpose of investigating this apparatus and reporting on the advisability of enforcing its use on inland waters: "The supervising inspectors have given the matter the most careful consideration and they are unanimous in their recommendation that if the law be not repealed it be so changed as to apply only to ocean steam navigation. We are satisfied that the guns are not needed upon the lakes, and the objections of the vessel men are well founded." General Dumont's report to the secretary of the treasury will undoubtedly form a basis for congressional action regarding the law, which will be repealed altogether or modified so as not to apply to the lakes.

CONGRESSMAN V. A. TAYLOR of Cleveland will be an earnest worker in behalf of the lake marine in the next house. He is now engaged in preparing data to show that in appropriations during the past several years for river and harbor improvements the lakes have not received their share in proportion to the extent of commerce involved. He will go to Washington with a statement showing for a period of years the business of the different districts as divided by the treasury department—Atlantic and gulf coasts, lakes, western rivers, etc.—and will present in connection with this statement a summary of appropriations secured. Mr. Taylor also proposes to make his quarters in Washington a bureau of intelligence regarding lake matters. An object lesson will be presented in a room lined with paintings of lake steamers, large photographs of iron ore and coal docks and other pictures illustrative of the growth of lake commerce.

ENGLAND'S great board of trade is going at the matter of water-tight bulkheads for ships in a manner that would seem to make up for loss in this regard in the past. In the construction of steel and iron vessels for both freight and passenger service on the lakes as well as on the coast, American builders have attached more importance to water-tight bulkheads for maintaining the floatation of a vessel after the sea had gained ingress to the hull than has been shown among the great British builders. The frequency of collisions on the lakes has had much to do with this. Public opinion in England had induced owners of passenger steamers to adopt the principle, but in cargo vessels the only incentive was the reduction of underwriting premiums, and where the bulkheads interfered with cargo storage the loss was considered to outweigh this gain. A committee from the board of trade made an extended report on the subject recently, however, and the matter of bulkheads may be expected to receive special attention from British builders in the future.

FROM the story told by the only survivor of the crew of seven aboard the schooner Frank Perew, which foundered on Lake Superior several days ago, it is evident that there would have been no loss of life as a result of the sinking of the vessel had her small boat been properly equipped. Carelessness in this regard is entirely too common on vessels and barges, and the accident furnishes another forcible argument in favor of the application of inspection regulations to sail as well as steam craft. This crew after leaving their sunken ship found themselves in a yawl with no ore locks, and although they passed Whitefish point almost within hailing distance of boats finding shelter under the point they were compelled to keep their small boat headed before the gale until they brought up in the breakers on Parisian island. It was unfortunate that they did not keep on toward the Sault instead of attempting to land on the island.

THERE is no denying the fact that the large number of collisions of late in the St. Mary's river and other connecting waterways of the lakes is conclusive evidence that the speed of steamboats is too great for the narrow and crooked channels. Rules for navigating the rivers have been talked of but they have not been enforced by a single company or on any boat as far as is known. The sinking of a boat at the Lime-Kiln's crossing last week should lead to a rule prohibiting boats bound up from running over the crossing while deep laden vessels are bound down. The deep laden vessels must keep the ranges and trouble is certain to follow when they are forced off the ranges.

THE Superior Leader complains because the Duluth correspondent of the REVIEW, as a matter of convenience, reports all shipments of grain from the head of Lake Superior under a Duluth date. Superior people claim that nearly two-thirds of the northwestern grain going to the seaboard by lake this season will pass through their elevators. However true this may be, it is certain that the plucky Wisconsin town with its Great Northern Railway and American Steel Barge Company interests is giving the older community across the bay a warm race for lake business.

The MARINE REVIEW and the MARINE ENGINEER, London, neo year for $4. Write the MARINE REVIEW.

Screw Propulsion With Non-Reversible Engines.

Industries, London, says that at the present time all screw propellers are driven by engines which must be so designed that they may be fitted with all the paraphernalia necessary for reversing. A considerable part of this reversing gear must be at work during the whole of the time the engines are running. Thus, although it may not be necessary to reverse the propeller or the direction of motion of a ship during a whole run, the quickly moving parts of this gear must, nevertheless, be kept at work all the time. In order to avoid the practical objections to this and the stresses which are brought to bear on the propeller and screw shaft by reversing the direction of their rotation, it is now proposed to effect the reversal of the direction of motion of the ship by means of the propeller and an apparatus has been designed for this purpose by Mr. Robert McGlasson of Selhurst, Surrey. For several years the feathering screw propeller has been in use on a considerable number of vessels. By means of this the angle of the blades may be shifted by gear in the screw shaft tunnel, so that they may be placed fore and aft, and thus offer no impediment to the motion of the ship when it is desired to employ sails instead of engines. By means of the same propeller, the angle of the blades may be set so as to alter the pitch to that which may be found best for the ship. As employed for these purposes, this form of propeller has been long enough in use to show its practical sufficiency.

By an extension of the application of the principle of this propeller, it is now seen to be possible to achieve several ends which are considered to be of great importance.

1. The propulsion of ships by means of screws which rotate always in the same direction and may be actuated by non-reversible engines and screw shafts.

2. The simplification of marine engines by dispensing with all the parts at present used for making the engine reversible.

3. The complete and quick reversal of the direction of propulsion of the ship, without any of that heavy stress which often amounts to strain and rupture of the screw shaft or couplings or crank shaft.

4. The facile adjustment of the pitch of the screw blades while the engines are running, so that the pitch may at all times be set to suit the form, trim, and condition of the ship, the requirements of navigation, or any sudden emergency requiring the promptest action.

The extension of the application of the principle of the feathering screw consists in the employment of apparatus by means of which the pitch or angle of the blades is always under control and may be changed from moment to moment with the same facility as is the rudder by means of steam or hydraulic steering gear. Either form of the apparatus thus employed operates by moving in one or other direction a sliding collar on the tail shaft. This collar is connected to the rod and levers, which gives angular motion to the screw blades. Generally a hydraulic cylinder and piston will be employed for moving this collar, and the valve for admitting the water to either side of the piston will generally be operated in the engine room, but may be operated from the bridge.

It will be seen that this new application of the principle of the feathering propeller will perform some important functions, which cannot be so well performed by the reversing engine. By its aid the direction of propulsion may be more quickly reversed than by the steam engine, because the direction of rotation of the propeller, propeller shaft and crank shaft is not altered. The enormous stresses due to the inertia of motion or of rest when the engines are quickly reversed are thus avoided, and the liability to the breakage of screw shafts, propellers and crank shafts is thus correspondingly reduced. This is in itself most important to the owners and to those who travel by ocean steamships. It will also be recognized that the simplification of the engines, and the ready adjustment of the pitch of the blades to the requirements of the ship are economical advantages which are only second in importance to that dwelt upon.

The Board of Trade and Steam Pipes.

In consequence of the accidents which have from time to time occurred to steam pipes, the British board of trade has issued the following notice:—"The board of trade has instructed its surveyors that all new steam pipes are to be tested by hydraulic pressure to not less than twice, and not more than two and a half times the working pressure, unless the case has been especially submitted to the board for consideration. As regards old steam pipes, for a period of six months from the date of the instruction the surveyors may exercise their discretion as to the test pressure they apply, taking care that such test does not exceed twice the working pressure, and when it is less than twice the working pressure, the declarations granted are for a period not exceeding six months. If in any way the surveyors cannot get such a test pressure applied to old pipes as they consider necessary, they are to forward full particulars of the case to the board in order that the necessary directions may be given. After six months from the date of the instruction old steam pipes are to be tested to a pressure of, at least, double the working pressure, but double the working pressure is not to be exceeded unless the case has been referred for consideration. The surveyors may test steam pipes at any time they consider it necessary, but except in special cases, possibly once in about three or four years may be found sufficient. When steam pipes are tested, the lagging, or covering, is to be taken off the pipes, and the pipes are to be carefully examined before, during and after the hydraulic test. The surveyors are to see that efficient means are provided for draining all the steam pipes."

Steam Fog Horns on Sailing Vessels.

What strikes us as a peculiar judicial decision in a very important matter has been reiterated by Judge Nelson, of Massachusetts, in the case of the steamer Parthian vs. the schooner Florence, that a sailing vessel using a steam fog horn not only cannot recover damages if she is run down by a steamer, but is liable for injuries to the steamer. This was the third case before the court of collision under such circumstances, and after reviewing the evidence the court said:

"It is clear that a sound produced by the whistle closely resembled some varieties of whistles used on steam vessels, and was so similar as to deceive and mislead those hearing it at a distance, especially in a fog. The men on the Parthian were completely deceived, and none of them, from masters to passengers, had the least suspicion that it was not the fog signal of a steamer. There can be no doubt that the disaster happened solely through the fault of those in charge of the Florence, in making fog signals by means of an instrument not sanctioned by sailing rules. Her horn was substantially a steam whistle such as belongs to a vessel under steam and which a vessel under sail has no right to sound in a fog."

Many ship owners and captains will, we imagine, classify this decision as of the "stuff and nonsense" order, and will aver that the judge does not know what he is talking about. They will say that the chief object of a fog horn is to make sufficient noise, and so long as the sailing vessel gives the regulation number of blasts to signify as to whether she is running free or which tack she is on, no steamer has any right to misinterpret it. That steam should not be applied to a fog horn on a sailing vessel when it is available seems to us entirely illogical, and such, we believe, would be the decision of any jury of modern ship masters. Steamer men are thoroughly aware of the introduction of steam fog horns on sailing vessels and the application of steam from the donkey engine, so often found on large schooners, to that purpose as well as for hoisting sails or running winches. That Judge Nelson's decision will not avail to stop the use of steam for fog horns on sailing vessels is a foregone conclusion, and if the courts continue to investigate cases arising from steamer mistakes in such matters, other conclusions must inevitably be arrived at.

The Safety Valve thinks the limit of speed for steam vessels lies in the strength of boilers, and it does to some extent as a sequence, but not a primary impediment. The total weight of propelling mechanism and of fuel, the speed of bearing surfaces, diameter of screws, and especially the expense of fuel, are causing more difficulty just now than the strength of boilers.—Journal Industries.

Among the Shipbuilders.

Negotiations for the building of two steel boats for the Lake Superior Iron company owning the Wawatam, Griffin and others, and an addition of two steamers unusually large to the Minnesota company's fleet are still pending in Cleveland but it is thought that they will be closed within a week. If these boats are built, and the Detroit Dry Dock Company decides to put down a duplicate of the Pope, the new freight boat on which lake shipyards will be engaged by the close of navigation will number twenty including McDougall's eight whalebacks, and these will aggregate a little less than 50,000 tons capacity. The boat for which the Globe Iron Works Company of Cleveland closed a contract during the week is for Samuel Mitchell of Negaunee, who is closely associated with the controlling stock owners of the Cleveland Rolling Mill Company in Lake Superior mining interests. The hull will be a duplicate of the Castalia, 310 feet over all, 292 feet keel, 40 feet beam and 24½ feet hold. The water bottom, 54 inches, will be deeper than that of any vessel on the lakes. The triple expansion engines will be duplicates of those in the Wilson line steamer Olympia, 20, 32 and 52 inches by 42 inches stroke. The boilers will be of the Scotch type, 14x12½ feet.

Quick Work on the Pontiac.

The Pontiac will leave the Ship Owners' dock, Cleveland, Saturday or Monday at the latest. If it is the latter date she will have been in dock four weeks, and will have received in three weeks, the time during which repairs were in progress, new bow, new plates for half of her bottom and new frames under her boiler. Supt. Smith, of the Globe Iron Works Company has the honor of completing in the shortest time the most extensive repair ever made to a steel vessel. No night work was done but from 255 to 360 men were kept at work every day. The survey of damages was not made public but they are said to have aggregated $40,000 to $50,000.

The Pontiac was sunk in collision with the Athabasca July 14, raised from her position at Wilson's bend, Sault river, Sept. 1 and placed in dock at Cleveland, Sept. 20. Repair work began Sept. 27, and on Oct. 17 she is expected to leave the dock as good as new. Experienced builders stated that two months would be required to complete the repairs.

Cargo Handling Machinery.

Col. James Pickands and Messrs. L. C. Hanna and H. H. Brown witnessed at the works of the Globe Iron Works Company Tuesday last the workings of a machine patented and built by Mr. R. Thew, for trimming ore cargoes and working in connection with the present machinery employed on unloading docks, through being used to load the buckets in the vessel. The machinery is designed to be carried in the hold of the vessel, acting after the manner of overhead cranes in large shops. The shovel is worked on a telescopic bar. It is proposed to put two of the machines into a lake vessel shortly, when a trial will be given them. The machinery is in good hands and some practical lake men predict success for it. In event of its working rightly another revolution would be witnessed in the business of handling ore cargoes on the lakes.

The Wheeler Condenser & Engineering Company recently filed articles of incorporation with the secretary of state at Trenton N. J. The company has bought out the entire plant and business of the Colwell Iron Works, at Carteret, N. J., which is one of the largest concerns in this country manufacturing vacuum pans, and special machinery for sugar refineries, salt works, condensed milk factories, etc. The Wheeler company will continue to manufacture Wheeler's patent surface condensers and other specialties. The capital stock of the company is $300,000 and the incorporators are: Frederick Meriam Wheeler of Montclair N. J., Aaron Vanderbilt of New York, Clifton H. Wheeler of Brooklyn, William H. Hampton of New York and Charles W. Wheeler of Brooklyn. The headquarters of the company will be at 92 & 94 Liberty street, New York.

Around the Lakes.

The harbor tug C. C. McDonald has been sold by W. F. Whitney of Detroit to Hill of Saginaw for $1,500.

The boat being built by Burger & Burger of Manitowoc for the lumber trade will be 150 feet keel, 31 feet beam and 10½ feet hold.

Grummond's tug Oswego burned to the water's edge in the river at Detroit Saturday night. She was valued at $16,000 and insured for $10,000.

It will be late next week before the government light-ships recently built at Toledo can be sent from Detroit to their stations in the Straits. Appointments of officers for the boats are delayed in Washington.

The American Steel Barge Company's barges building at West Superior, Wis., have been fitted with the Bishop closets, which are now in use in steam yachts Utowana and Corsair and cruisers Boston, Atlanta and Texas.

Melendy & Packard photographers of Manitowoc, Wis make a specialty of getting marine views. They have taken some handsome pictures of the Goodrich boats. One view of the dining-room was taken by electric light.

Superior is now giving publicity to a scheme to have the Farmer's Alliance of Minnesota build a million-bushel elevator at that point. The plan is to form a stock company of grain growers, dividing a capital of $1,000,000 into shares of $100 each.

We are in receipt of a copy of the "Business Guide or Safe Methods of Business," by J. L. Nichols A. M., principal of the Northwestern business college, Naperville, Ill. The book contains a valuable collection of information of a general nature.

Reid has given up the attempt to dredge a channel to the schooner Golden Fleece, ashore at Dunkirk, Lake Erie. Several heavy lines have been parted in attempting to pull the schooner into deep water after she was jacked up. It is probable that she will spend another winter on the beach.

Superintendent S. I. Kimball of the life saving service has received the resignation of Albert Ocha, keeper of the ship canal station, Lake Superior. Several others have resigned from the same station this year which leads Superintendent Kimball to remark that keepers receive but $700 per annum while their duties grow more arduous.

Baker Bros., Canadian wreckers, are endeavoring to release the schooner Gleniffer, which was driven ashore off Mimico, Ont., in the fall of 1888. Divers were sent down to put bulkheads on to the breaches in her bow, a pump has been put aboard and everything seems favorable to a speedy and successful termination of the venture. As soon as released the Gleniffer will be towed to Toronto and put into dry dock.

Last May a petition from the mayor, council, railroads and private dock owners of Detroit was sent to the secretary of war, asking for the establishment of a dock line for the protection of vessel interests at that port. In accordance with the petition, the Secretary has instructed the chief of engineers to order the call of a meeting of army engineers for the purpose. Gen. Casey has appointed Gen. O. M. Poe, Major William Ludlow and Lieut. Charles S. Riche a commission to make an examination for the purpose, to meet subject to the call of the senior member.

Cleveland Matters.

Survey of damages on the barge 112 was completed Tuesday by Supterintendents Smith and Bristow, the amount being fixed at about $3,500. The 105 was placed in the Ship Owners' dock, Wednesday.

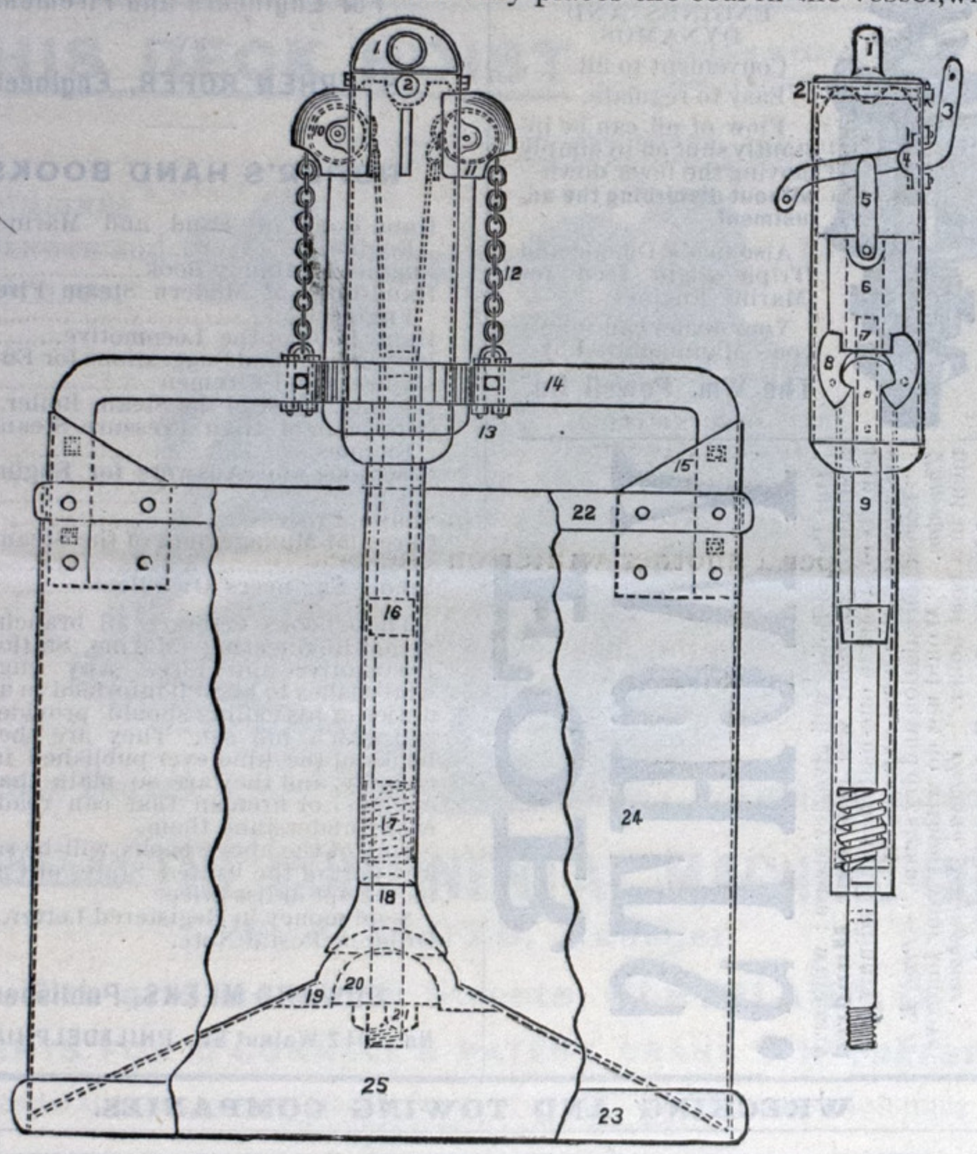
Last Saturday the Ludlow Manufacturing Company shipped one of their patent buckets to London, England. It is to be tested there by parties interested and will no doubt be generally adopted there as it is on the lakes.

Mr. R. K. Winslow, one of the oldest vessel owners in Cleveland, has not been able to give attention to business of late on account of failing health but he is thought to have shown signs of improvement within the past two weeks.

There is nothing new in the statement that the steamer Griffin of the Lake Superior Iron Company's fleet makes the round trip between Buffalo and Marquette, not including time of unloading, in six days. The boats of the fleet are all close to an average of seven days for round trips from Lake Erie to Marquette, including time of loading and unloading.

Lake Methods of Handling Coal.

There has probably been more improvement made in machinery for the handling of coal and ore on the lakes during the past few years than in any other branch of the lake service. In the year 1878, the first machinery for this service was introduced. Prior to this date coal was unloaded from cars into pockets and reached the vessels through chutes. This system of loading crushed the coal to such an extent that both shippers and purchasers soon saw that some method must be adopted for handling it more carefully. When machinery was first introduced the vessels were small, mostly canal size, or of about 600 tons capacity. They were all single decked. Soon afterward vessels began to increase in size, the capacity reaching 1,500 to 2,000 tons. With this came a change from single to double decks,and the space from upper deck to bottom of the vessel was increased from 10 feet to 20 and 23 feet. The ordinary turn-over bucket which has always been tripped or turned over above the deck was found to have no particular advantage over the chute system, as the distance the coal fell was being increased. Nearly every manufacturer on the lakes has been experimenting on buckets of different descriptions. hoping to get something that would enable them to put the coal into the vessel without dropping it. This was not accomplished, however, until Mr. W. E. Ludlow introduced his bottom dump bucket, a cut of which is herewith shown. This bucket not only places the coal in the vessel,without breaking, but so distributes it that but little trimming is required. They have now been in use at this and other ports for two years and have given entire satisfaction, so much so that duplicate and triplicate orders for them have been received from some dock managers. Vessel owners are well pleased with the bucket for the reason that they do not injure the hatches, and there is less dirt left upon the decks and rigging of the vessel. We have seen letters from many consignees of coal who state that the proportion of slack is reduced from 5 to 10 per cent., amounting to an increase in the value of the cargo from 10 to 20 cents per ton. It is more than probable that these advantages will result in the adoption of this bucket on every coal dock on the lakes.



Mr. Ludlow has been using an automatic trip on one of the machines of the New York and Cleveland Gas Coal Company in this city for the past month and its workings are entirely satisfactory. It is so constructed that it can be set to trip the bucket at any distance from the bottom of the vessel that is desired and it will continue to do so until a change in the trip is made. With the trip, three buckets of coal can be put into a vessel as against two where the bucket is tripped by hand. Mr. Ludlow has this as well as all other appliances fully covered by patents.

Official Numbers and Tonnage.

The bureau of navigation, W. W. Bates commissioner, assigned official numbers to the following lake vessels during the week ending Oct. 3: Steam—Sunbeam, Chicago, 53.13 tons gross, 33.92 net, No. 116,452; Zero, Port Huron, 24.32 tons gross, 15.64 net, No. 28,121.

MICHIGAN READERS OF THE REVIEW SHOULD TELL THEIR FRIENDS THAT THEY CAN HAVE THE MARINE REVIEW AND DETROIT TRIBUNE (WEEKLY) ONE YEAR FOR $2.

In General.

Engineer-in-Chief Melville of the navy is responsible for the design or approval of machinery aggregating over 225,000 horse power.

Blocks have been laid in the yard of the Fairfield company on the Clyde for the first of the swift additions to the Cunard line. The boats will be 600 feet long and 65 feet beam and will be of 14,000 tons each. They will have but two masts instead of three, with a minimum amount of rigging and two funnels.

A mistake is made in saying that the small barge O. O. Carpenter, which went through the Hay lake channel a few days ago, on account of the Peck obstructing the present channel, is the first freight boat to go through the new cut. The schooner Mineral State, Capt. A. E. Bullock, was towed down over the new workings early last spring.

In his forthcoming annual report William W. Bates, commissioner of navigation, will, according to the Marine Journal, present some interesting comparisons as to the survival and durability of British and American built vessels of wood and iron, sail and steam. The figures will show that American built vessels outlast those of English construction, notwithstanding the prejudice in favor of British builders and the discrimination of foreign underwriters against American craft.

Notices to Mariners.

William Smith, deputy minister of marine of Canada, has just issued a description of the Murray canal and its approaches, including aids to navigation. The description is in the form of a notice to mariners, a copy of which can be secured on application to the department of marine.

Commander Nicol Ludlow of Chicago gives notice that the black spar buoy off the entrance to St. Joseph, Mich., has been carried away. It will be replaced as soon as possible. Masters of vessels are cautioned to be particularly careful in entering this harbor, especially at night, as the lights on the pier can no longer be used to run straight in, owing to a shoal which has formed on the north side of the entrance.

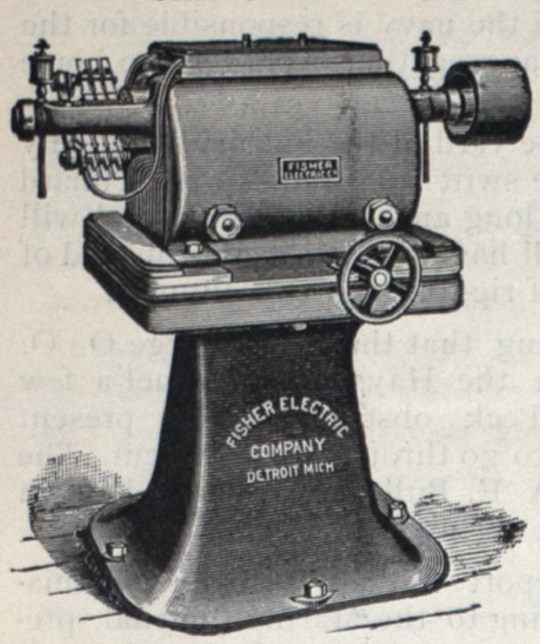
In the regular monthly bulletin of changes from the lighthouse board, issue of Oct. 1, attention is directed to changes made on the lakes during the month of September, which have already been noted in the REVIEW. They are: Ludington, north pier-head light, Lake Michigan, color white not red, as erroneously given in the list; Porte Des Morts, (Pilot island), change from flashing white every minute to fixed red; Menominee pier-head, change from fixed red of the fifth order to fixed red of the fourth order; Devil's island, Apostle group, establishment of fixed red light, fourth order.

UNITED STATES ENGINEER OFFICE, 34 West Congress street, Detroit, Mich., September 19, 1891. Sealed proposals, in triplicate, will be received at this office until 2 o'clock p.m., October 19, 1891, and then opened: For furnishing ten gate anchorages for the 800 feet lock at St. Mary's Falls Canal, Michigan. Preference will be given to materials of domestic production or manufacture, conditions of quality and price (import duties included) being equal. Attention is invited to Acts of Congress, approved February 26, 1885, and February 23, 1887, vol. 23, page 332, and vol. 24, page 414, Statutes at Large. The government reserves the right to reject any or all proposals; also, to waive any informalities. For further information apply at this office. O. M. POE, Colonel, Corps of Engineers, Bvt. Brig. General, U. S. A.

SALE OF THE REVENUE STEAMER "Bibb."—Treasury Department, Washington, D. C., Sept. 30, 1891. Will be sold at public auction, to the highest and best bidder, for cash, at 12 o'clock noon of Saturday, Oct. 24, 1891, at Buffalo, N. Y., the revenue steamer "George M. Bibb." She is a screw propeller of 214 tons C. H. measurement, schooner rig with wire rigging. Was built in 1864 and thoroughly rebuilt and furnished with a new boiler, surface condenser, etc., in 1881. Her extreme length is 140 feet, beam, molded 22¾ feet, draft forward 7 feet 6 inches, aft 9 feet 9 inches. Has a Scotch tubular boiler, length 14½ feet, diameter 9½ feet, and an inverted, direct-acting engine, diameter of cylinder, 32 inches, stroke of piston 32 inches, and is provided with a steam donkey-pump, windlass, sails, awnings, anchors, chain, etc. Certain articles of outfit will be sold separately at the same time. The vessel can be seen at Langdon's wharf, foot of Genesee street, Erie Basin, Buffalo, and will be open for inspection until the date specified, The sale will be subject to the approval of the Department. A deposit of $200 will be required of the highest bidder. CHARLES FOSTER, Secretary.

The MARINE REVIEW and the MARINE ENGINEER, London, one year for $4. Write the MARINE REVIEW.

SEE CAPT. PECK'S LETTER Regarding Incandescent Lighting Plant on the Steamer S. R. KIRBY.



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DETROIT, MICH., Oct. 7, 1890.

FISHER ELECTRIC CO.,
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GENTLEMEN:—Replying to your inquiry regarding the operation of the 200 Light Incandescent Plant placed on the Steamer S. R. Kirby, we wish to say that the plant has operated during the season without an interruption and has not cost us one cent. No Lamps have been broken, and we would not be without it. Very truly yours,

E. M. PECK, President.

FISHER ELECTRIC COMPANY, 183, 185 & 187 Larned St., West, DETROIT, MICH.

VESSEL AND MACHINERY EXCHANGE.

Space under this heading may be used gratis by our advertisers or subscribers to call attention to vessels or any craft, machinery, new or second hand, that they may have for sale. Those wanting machinery of any kind, or wishing to purchase vessels, are invited to take advantage of the same offer. Each item will be limited to three lines. Letters concerning same must mention number attached to item and be addressed MARINE REVIEW, 510 Perry-Payne Building, Cleveland. O.

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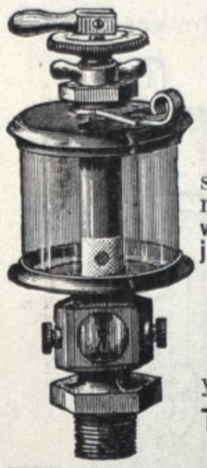

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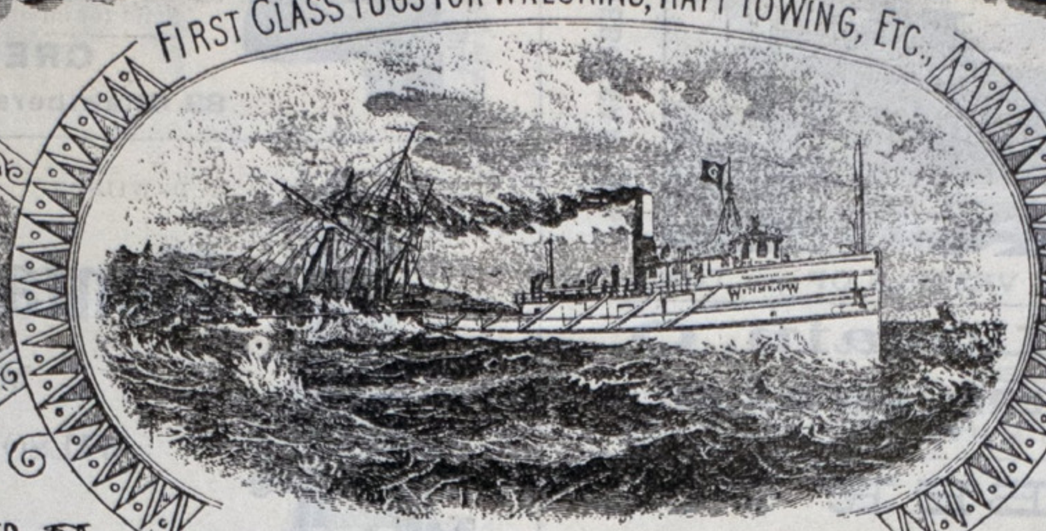

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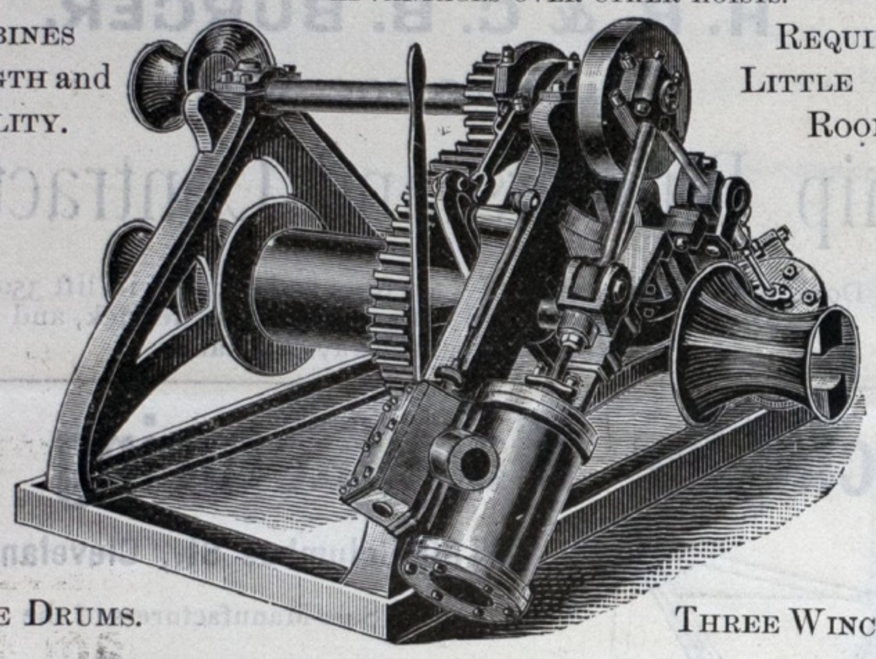

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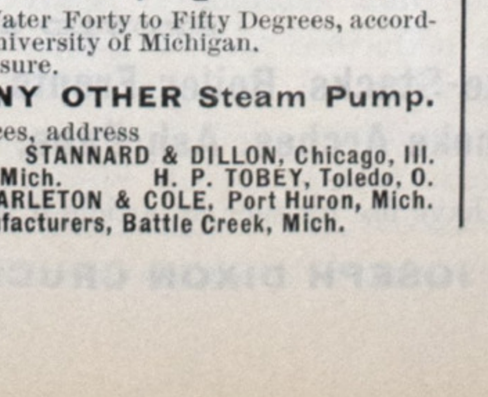

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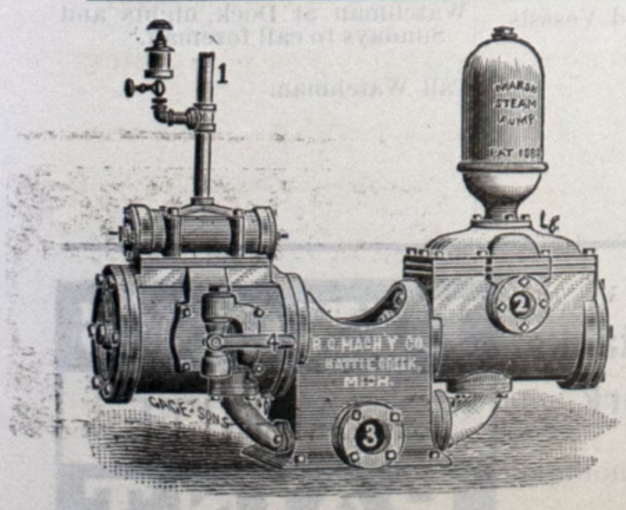

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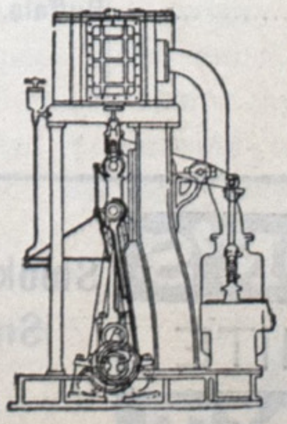

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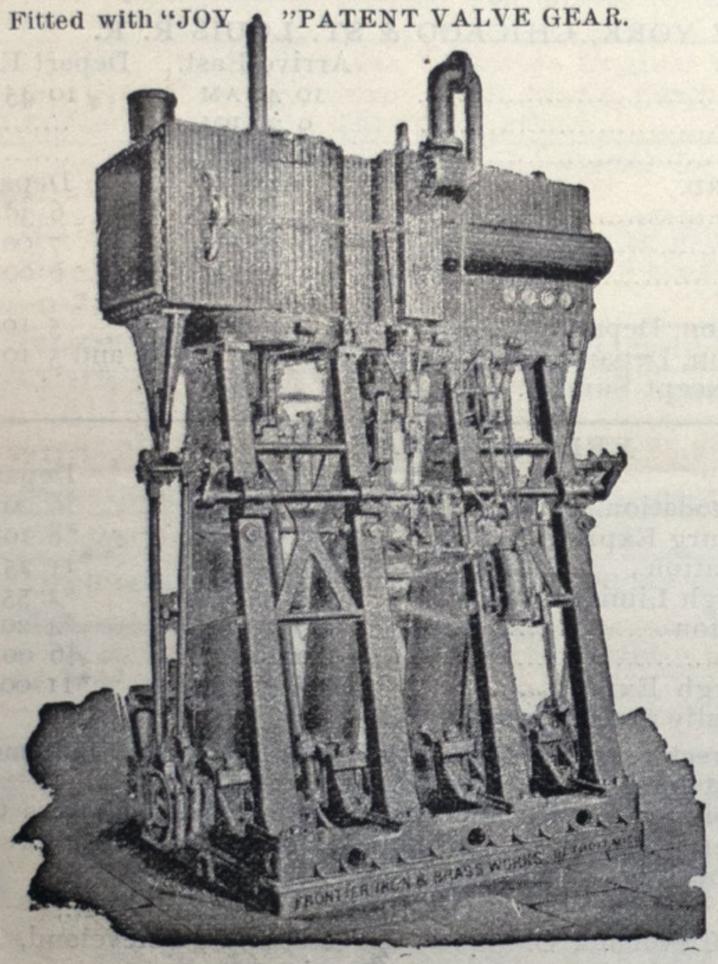

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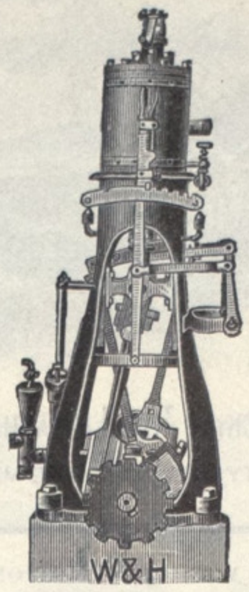

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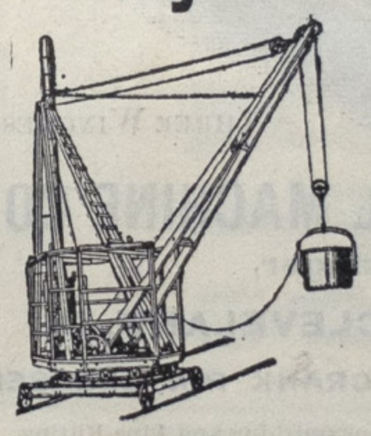

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Clark Dry Dock Co.....	Detroit, Lower Docks,.....	360 220	68 42	10½ (9 upper) 11½ (10 end.)	.....	Watchman at Dock will call Superintendent.
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